# UNITED STATES PATENT AND TRADEMARK OFFICE

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|---|---|---|---|
| 09/658,594 | 09/08/2000 | Shinya Matsumoto | CS-20-000908 | 2609 |

| 22712 | 7590 | 03/13/2006 |
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| EXAMINER |
|---|
| AMINI, JAVID A |

| ART UNIT | PAPER NUMBER |
|---|---|
| 2672 | |

DATE MAILED: 03/13/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

| | **Application No.** | **Applicant(s)** |
|---|---|---|
| ***Office Action Summary*** | 09/658,594 | MATSUMOTO ET AL. |
| | **Examiner** | **Art Unit** | |
| | Javid A. Amini | 2672 | . |

-- *The MAILING DATE of this communication appears on the cover sheet with the correspondence address* --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
   Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on 03 November 2005.

2a)☐ This action is **FINAL**.        2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☐ Claim(s) _____ is/are pending in the application.

   4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,5-7,11-13,17-20 and 67-82* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

   Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

   Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

   a)☐ All   b)☐ Some * c)☐ None of:

   1.☐ Certified copies of the priority documents have been received.

   2.☐ Certified copies of the priority documents have been received in Application No. _____.

   3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

   * See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1)☒ Notice of References Cited (PTO-892)
2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3)☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
   Paper No(s)/Mail Date 2/15/2006.

4)☐ Interview Summary (PTO-413)
   Paper No(s)/Mail Date. _____ .
5)☐ Notice of Informal Patent Application (PTO-152)
6)☐ Other: _____.

## *Response to Arguments*

Applicant's arguments with respect to claims **1,5-7,11-13, 17-20 and 67-82** have been

considered but are moot in view of the new ground(s) of rejection.

**Status of claims:** claims 2-4, 8-10, 14-16, and 21-66 are canceled

## *Claim Rejections - 35 USC § 103*

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in
> section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are
> such that the subject matter as a whole would have been obvious at the time the invention was made to a person
> having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the
> manner in which the invention was made.

**Claims 1,5-7,11-13, 17-20 and 67-82 are rejected under 35 U.S.C. 103(a) as being**

**unpatentable over Blinn U.S. Patent 6,184,891 B1 in view of Snyder et al, (hereinafter**

**refers as Snyder) U.S. Patent, 6,326,964 B1.**

Regarding claim 1, Blinn in figs. 2 and 4 illustrates that the claimed feature of a method

of rendering an image, comprising the step of: mapping a plurality semitransparent textures

[Blinn mapped objects A and B, which contained hatched (i.e. considered as textures) and

transparent areas, and mapped the fogged layers.] respectively onto of a plurality of

semitransparent or transparent polygons which make up an object; [Blinn in figs. 2 and 4

illustrates by remapping the objects A, B and combining them together with fogged layers.] see

following claim invention: remapping the plurality of semitransparent textures, respectively onto

different polygons [Blinn in fig. 2 illustrates polygons as rectangular and square] from among

plurality of semitransparent or transparent polygons which make up object [Blinn in fig.2, 54

illustrates making up an object with different textures], wherein, in remapping step, semitransparent textures are moved [ Blinn at col. 4 lines 37-42 teaches that a fogged image layer can be stored and re-used as long as the object rendered to the image layer moves in an (x,y) plane. If an object moves in the z direction, then it can be re-rendered independently and fogged using a new amount of fog representing the fog between the viewpoint and the object.] so that semitransparent textures become associated respectively with different adjacent polygons, in a circulating manner, from among plurality of semitransparent or transparent polygons which make up object. Applicant does not specify direction of the object, therefore, [Blinn at col. 18 lines 1-10, teaches each of the objects can move in (x,y) directions in the scene without re-rendering. If an object moves in the z direction, this object can be rendered independently to a new sprite layer, without re-rendering the other fogged objects in separate sprites. The non-changing (or imperceptibly changing) sprites can retain their original color values for more than one frame in an animation sequence. To compute each output image, the rendering system can composite the separate layers, including both re-used and/or re-rendered fog layers, using the over image operator].

Blinn does not explicitly specify the semitransparent textures become associated respectively with different polygons in a circulating manner. However, Blinn at col. 18 lines 1-10, teaches each of the objects can move in (x,y) directions. Snyder at cols. 34-35, lines 66-67; 1-12 respectively teaches a command stream cache to cache the object data input stream. The command stream cache can be used to cache the entire contents of a gsprite, and then iterate over every chunk and its associated geometries in the gsprite stored in the cache. The cache can be also used for selective caching. For example, defining a threshold so that geometric primitives

are automatically cached if they touch a certain number of chunks. If a cache is available, then virtual chunking can be done. In virtual chunking, a chunk bucket is created which corresponds to regions of NxM chunks with each region being a virtual chunk. Virtual chunking allows for adaptive sizing of the virtual chunks appropriate to the contents and the size of the geometry being processed.

Therefore, it would have been obvious to one of skilled in the art to include the teaching of Snyder i.e. the command stream cache to cache the object data input stream into the teaching of the Blinn i.e. each of the objects can move in (x,y coordinate) directions (e.g., x,y;-x,y;-x,-y; and –x,y), to substitute applicant's described structure, for rendering an image representing a fluid motion such as a stream of water or a flow of smoke. As such improvement is also advantageously desirable in the teaching of Blinn for glowing objects such as fire add brightness to a pixel but do not affect its opacity, alpha. A glowing object can be simulated with glow pixels that have a zero alpha component and non-zero color components.

Regarding claim 5, Blinn illustrates in figs. 5 and 6 that arranging plurality of semitransparent or transparent polygons in one or more multiple layers.

Regarding claim 6, claim 6 is similar in scope to the claim 1, and thus the rejection to claim 1 hereinabove is also applicable to claim 6.

In addition, Blinn further discloses that storing a plurality of texture images in a texture rendering area of an image memory; storing a plurality of polygons, which make up an object in a display rendering area of image memory. (See fig. 7, 222, 227 228, 230 and 249).

Regarding claims 7, 11-13 and 17-20, claims 7, 11-13 and 17-20 are similar in scope to the combination of claims 1 and 5-6, and thus the rejections to claims 1 and 5-6 hereinabove are also applicable to claims 7,11-13 and 17-20.

Regarding claim 67, Blinn the abstract teaches the graphics rendering system can then simulate the motion of a fogged image layer by moving the fogged layer in an (x,y) plane without re-computing the fogged pixels, or by moving the fogged layer in the z-direction (Examiner's interpretation: i.e. considered as a different direction) and independently re-computing the moving fogged layer with a new value for the amount of fog applied to the image layer. The method applies to scenes where there are several fogged layers and to scenes that simulate fire and glow with pixels that are totally transparent but have non-zero color values. The claimed invention claims : at least one of plurality of semitransparent textures is moved in a different direction from another one of plurality of semitransparent textures.

Regarding claim 68, Blinn at col. 1 lines 6-7 teaches that object comprises a three dimensional object.

Regarding claims 69-82, claims 69-82 are similar in scope to the claims 67-68, and thus the rejections to claims 67-68 hereinabove are also applicable to claims 69-82.
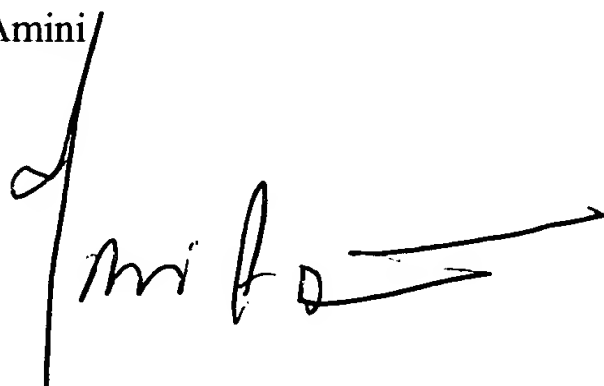
## *Conclusion*

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Javid A. Amini whose telephone number is 571-272-7654. The examiner can normally be reached on 8-4pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard A. Hjerpe can be reached on 571-272-7691. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Javid A Amini
Examiner
Art Unit 2672

Javid Amini/